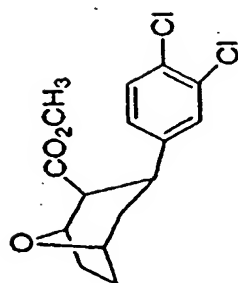
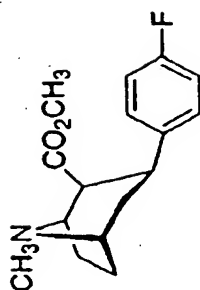
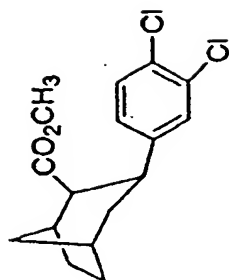


Cocaine

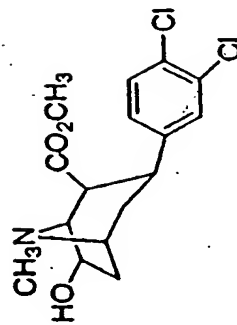
WIN 35,428



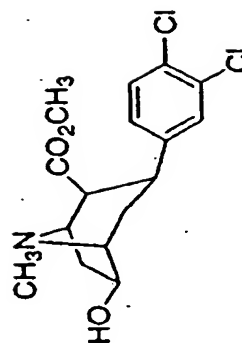
2β-Carbomethoxy-3β-(3,4-dichlorophenyl)-
8-oxabicyclo[3.2.1]octane



2β-Carbomethoxy-3β-(3,4-dichlorophenyl)-
bicyclo[3.2.1]octane



2β-Carbomethoxy-3β-(3,4-dichlorophenyl)-
7β-hydroxy-8-methyl-8-azabicyclo[3.2.1]octane



2β-Carbomethoxy-3β-(3,4-dichlorophenyl)-
6β-hydroxy-8-methyl-8-azabicyclo[3.2.1]octane

Figure 1. Structures of Lead Bicyclo[3.2.1]octanes

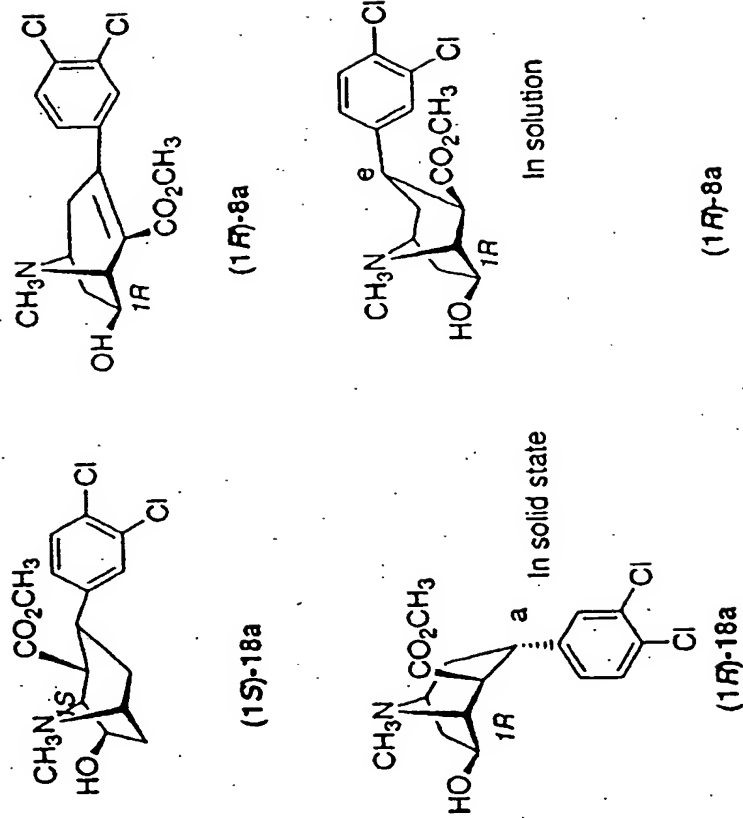


Figure 2. Absolute Configurations of (1R)-8a, (1R)-18a, (1S)-18a

Figure 3

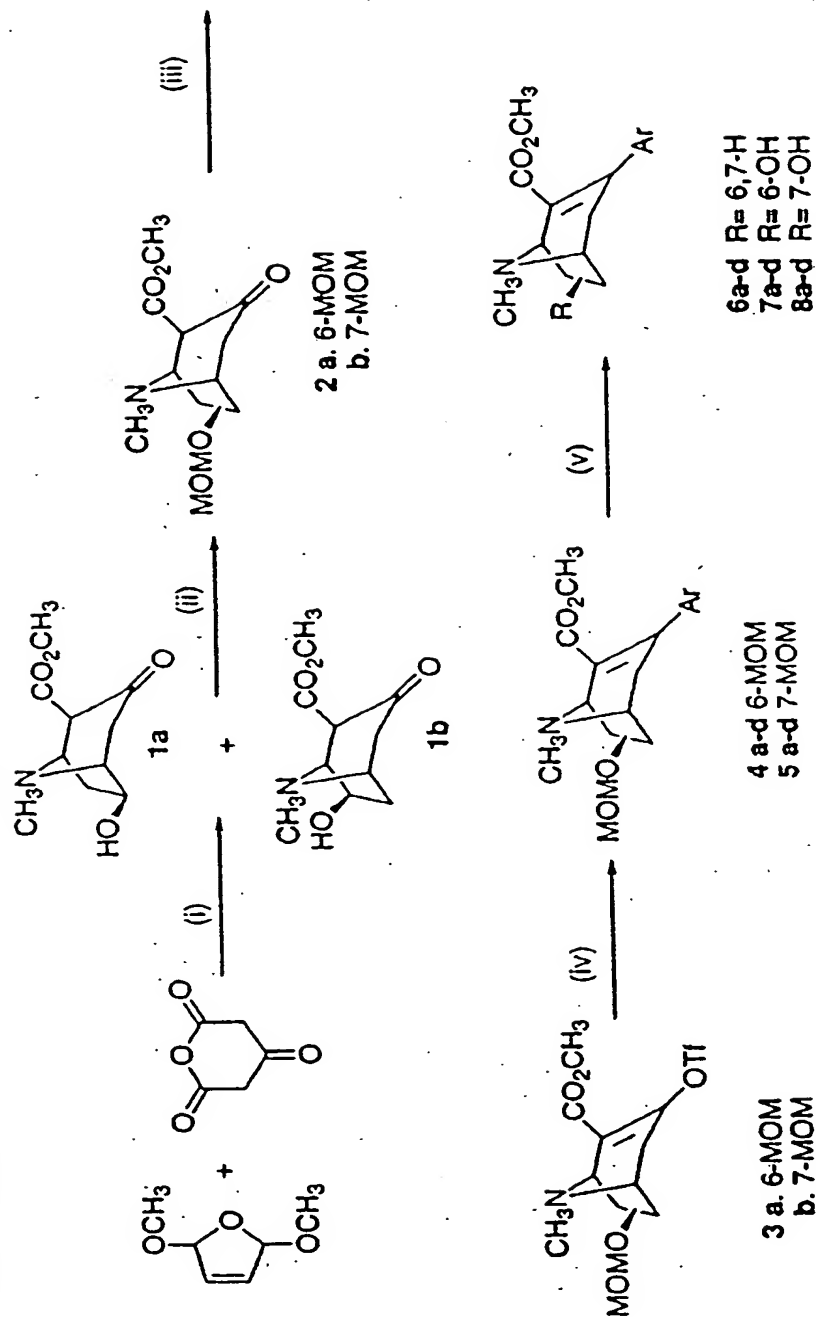
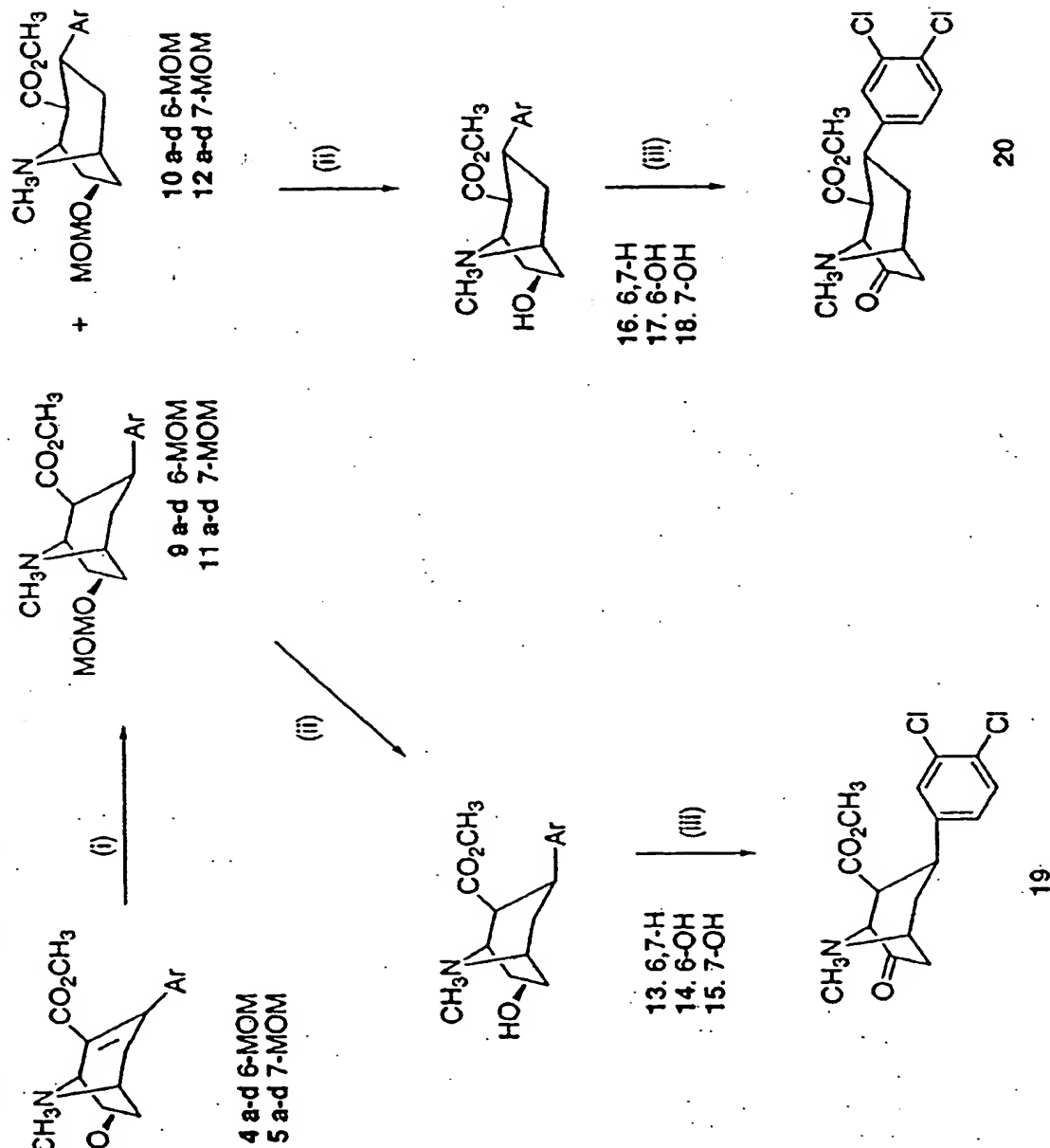
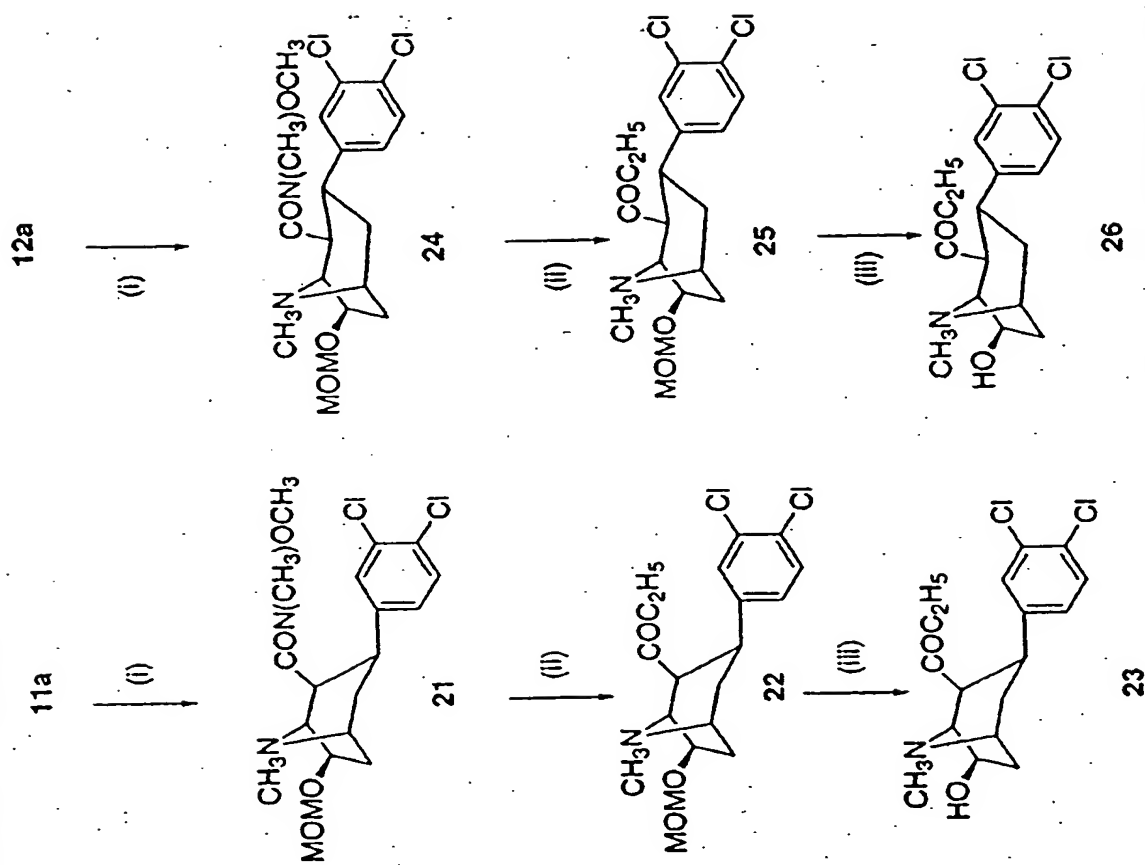
Scheme 1. Synthetic Route to 2,3-Unsaturated Tropanes^a

Figure 4

Scheme 2. Synthetic Route to Bridge Oxygenated Tropanes^a

^a Reagents: (i) SmI₂; (ii) TMSBr, CH₂Cl₂; (iii) *N*-CH₃-morpholine-*N*-oxide, tetra-*n*-propylammoniumperthenate.

Scheme 3. Synthetic Route to Bridge Oxygenated 2-Keto Tropanes^a



^a Reagents: (i) $\text{HN}(\text{CH}_3)\text{OCH}_3$, $\text{Al}(\text{CH}_3)_3$; (ii) ETMgBr ; (iii) TMSBR , CH_2Cl_2 .

Figure 6

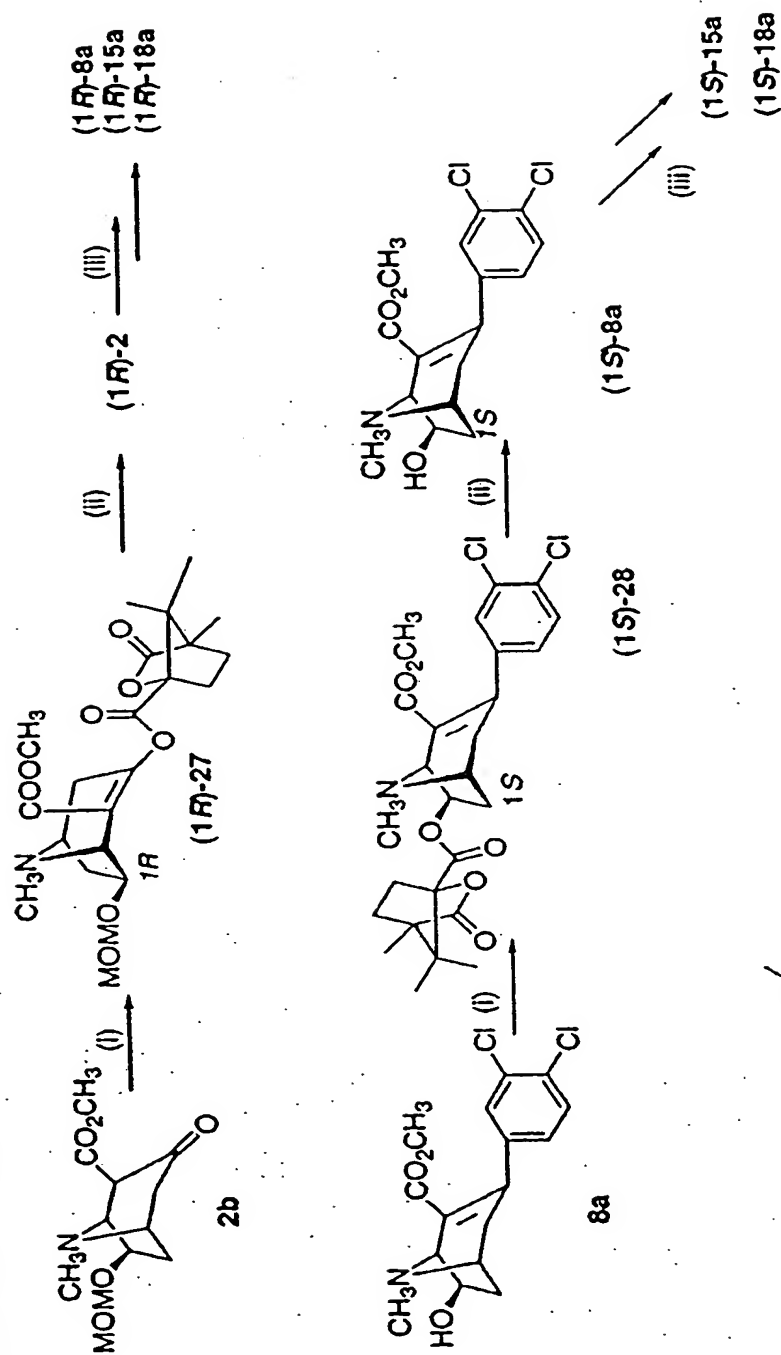
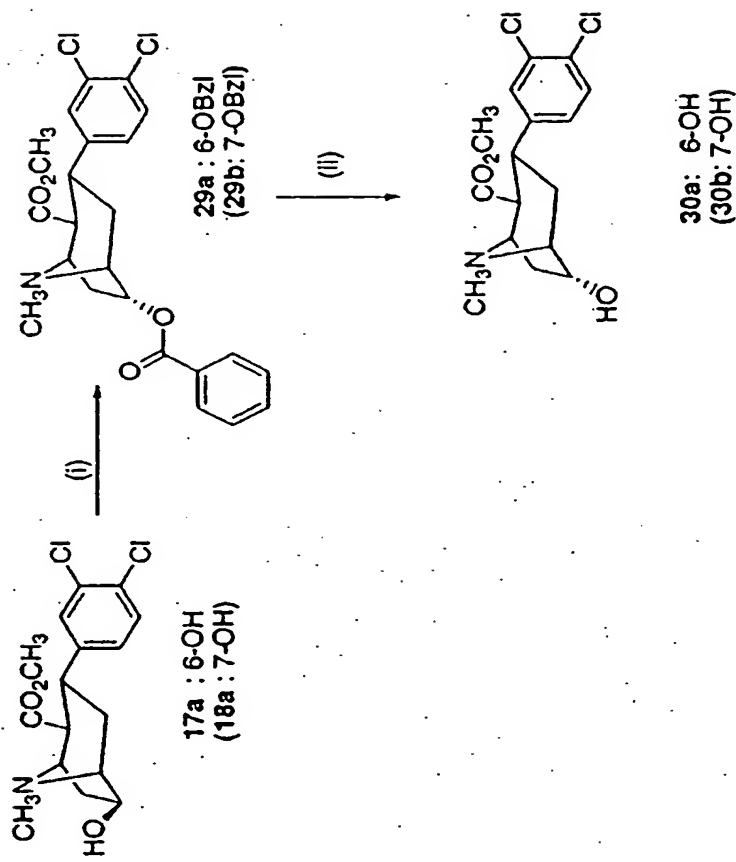
Scheme 4. Resolution of 8A, 15A, and 18A^a

Figure 7

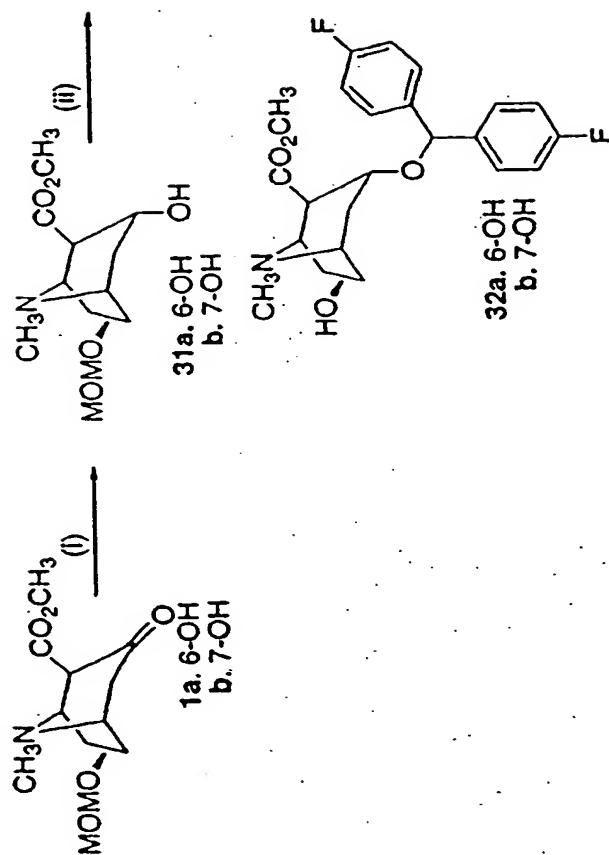
Scheme 5. Inversion at C6 and C7^a



^a Reagents: (i) C₆H₅COOH, Ph₃P, DEAD; (ii) LiOH, THF.

Figure 8

Scheme 6. Synthesis of Diarylmethoxy Tropanes^a



^a Reagents: (i) NaBH_4 ; (ii) 4,4'-difluorobenzhydrol, $p\text{TSA}$.